

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 11

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ELLIS C. SEAL, ROBERT WILLIAM BIGGS, JR.,
VENU PRASAD BODEPUDI AND JOHN A. CRANSTON

Appeal No. 2000-1799
Application 09/211,473

ON BRIEF

Before OWENS, LIEBERMAN and JEFFREY SMITH, *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal is from the final rejection of claims 1-14, 58 and 59, which are all of the claims remaining in the application.

THE INVENTION

The claimed invention is directed toward a method for making a composite material. Claim 1 is illustrative:

1. A method of producing a composite material, comprising the steps of:

(a) impregnating a fiber material with a resin to create a

resin-impregnated fiber material;

(b) without applying pressure, heating the resin-impregnated fiber material under vacuum at a sufficient temperature for a sufficient amount of time until the resin reaches gel stage; and

(c) applying temperature for a sufficient period to cure the resin-impregnated fiber material, wherein:

(I) the starting percentage by weight of fiber material, is 30-80%;

(II) the starting percentage by weight of resin, is 20-70%.

THE REFERENCES

Seibold et al. (Seibold)	4,100,322	Jul. 11, 1978
Palmer et al. (Palmer)	4,942,013	Jul. 17, 1990
Honka	5,106,568	Apr. 21, 1992

THE REJECTIONS

The claims stand rejected as follows: claims 1, 2 and 9-11 under 35 U.S.C. § 102(b) over Seibold; claims 8, 12, 13, 58 and 59 under 35 U.S.C. § 103 over Seibold; claims 3, 7 and 14 under 35 U.S.C. § 103 over Seibold in view of Honka; claims 4-6 under 35 U.S.C. § 103 over Seibold in view of Honka and Palmer; and claims 58 and 59 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the appellants regard as the invention.¹

¹ Rejections of claims 7, 8, 12-14 and 58 under 35 U.S.C. § 112, first paragraph,
(continued...)

OPINION

We reverse the prior art rejection of claims 1-11 and 59, affirm the prior art rejection of claims 12-14 and 58, affirm the rejection of claims 58 and 59 under 35 U.S.C. § 112, second paragraph, and set forth an amendment to claim 59 under 37 CFR § 1.196(c).

Prior art rejection of claims 1-11 and 59

We need to address only claim 1, which is the sole independent claim among claims 1-11 and 59.

Seibold discloses a method for producing a composite material by impregnating a fibrous reinforcement with a solution of a resin in a solvent to create a resin-impregnated fiber material, heating the resin-impregnated fiber material under vacuum at elevated temperature under conditions and for a period sufficient to thermally strip out the solvent and assure substantially complete impregnation of the resin into the fibrous reinforcement, until substantially all of the solvent has been removed and the resin commences to gel, at which point the resin-impregnated fiber material can contain typically about 35 to

¹(...continued)
enablement requirement, and claims 1-14 under 35 U.S.C. § 112, second paragraph, are withdrawn in the examiner's answer (page 2).

about 45 wt% fiber and about 55 to about 65 wt% resin, and thermally curing the resin-impregnated fiber material (col. 4, lines 20-45). The exemplified method of assuring substantially complete impregnation of the resin into the fibrous reinforcement is to interrupt the solvent stripping process twice, each time pressurizing the assembly to 200 psig in an autoclave at 150°C (col. 7, lines 25-29).

The examiner argues that Seibold's pressurizing is not required (answer, page 8). Seibold, however, requires that the thermal treatment under vacuum takes place under conditions which assure substantially complete impregnation of the resin into the fibrous reinforcement (col. 4, lines 27-32), and the disclosed conditions include applying pressure (col. 7, lines 25-29). Seibold does not specify in the portion of the reference relied upon by the examiner (column 4, lines 27-32) that applied pressure is needed to assure substantially complete impregnation. However, Seibold's silence at that point in his disclosure as to the conditions needed to assure substantially complete impregnation is not a disclosure that there are suitable impregnation conditions which do not require applied pressure.

Because the examiner has not pointed out where Seibold discloses conditions for assuring substantially complete

impregnation of the resin into the fibrous reinforcement other than conditions which require applied pressure (col. 7, lines 25-29), we find that the examiner has not carried the burden of establishing a *prima facie* case of anticipation of the method recited in the appellants' claim 1. Consequently, we reverse the rejection under 35 U.S.C. § 102(b) of this claim and claims 2 and 9-11 which depend therefrom. Because the examiner has not explained how Seibold would have fairly suggested, to one of ordinary skill in the art, using conditions to assure substantially complete impregnation of the resin into the fibrous reinforcement which do not include applied pressure, we reverse the rejection of claims 8 and 59 under 35 U.S.C. § 103 over Seibold. Because the examiner has not explained how Honka and Palmer remedy the above-discussed deficiency in Seibold, we reverse the rejection of claims 3-7 under 35 U.S.C. § 103.

Prior art rejection of claims 12-14 and 58

The appellants do not argue the separate patentability of claims 13, 14 and 58 which depend from independent claim 12. Hence, we limit our discussion of the prior art rejection of these claims to claim 12. See *In re Burckel*, 592 F.2d 1175, 1178-79, 201 USPQ 67, 70 (CCPA 1979); *In re Herbert*, 461 F.2d 1390, 1391, 174 USPQ 259, 260 (CCPA 1972); 37 CFR

§ 1.192(c) (7) (1997) .

Seibold does not disclose the particular heating procedures recited in claim 12. The examiner argues that Seibold discloses (col. 4, lines 39-57) that it is desirable to slowly increase the temperature during the heating steps, and that in view of this disclosure one of ordinary skill in the art would have arrived, through no more than routine experimentation, at heating procedures such as those recited in the appellants' claim 12 (answer, page 5). The appellants do not express any disagreement with this argument.

The appellants argue that there is no suggestion in Seibold to allow the resin to gel without applying pressure (brief, page 5). This argument is not well taken because the appellants' claim 12 does not recite that the resin is gelled without applying pressure, and the "comprising" transition term opens the claim to non-recited steps such as steps in which pressure is applied. See *In re Baxter*, 656 F.2d 679, 686, 210 USPQ 795, 802 (CCPA 1981). Accordingly, we affirm the prior art rejection of claim 12 and claims 13, 14 and 58 which depend therefrom.

*Rejection of claims 58 and 58 under
35 U.S.C. § 112, second paragraph*

The examiner argues that claims 58 and 59 fail to comply

with 35 U.S.C. § 112, second paragraph, because the form of the resin Markush groups is improper, i.e., they are of the form "a, b or c" rather than "a, b and c" (answer, pages 3-4). The appellants' arguments regarding the issue of claim clarity (brief, page 4) do not include an argument that the examiner is incorrect with respect to the clarity of the Markush groups. Consequently, we consider the appellants to have acquiesced in this rejection. Accordingly, we affirm the rejection of claims 58 and 59 under 35 U.S.C. § 112, second paragraph.

AMENDMENT UNDER 37 CFR § 1.196(c)

Under the provisions of 37 CFR § 1.196(c) we state that claim 58 may be allowed if amended to read "and blends of these resins" rather than "or blends of these resins".

DECISION

The rejections of claims 1, 2 and 9-11 under 35 U.S.C. § 102(b) over Seibold, claims 8 and 59 under 35 U.S.C. § 103 over Seibold, claims 3 and 7 under 35 U.S.C. § 103 over Seibold in view of Honka, and claims 4-6 under 35 U.S.C. § 103 over Seibold in view of Honka and Palmer, are reversed. The rejections of claims 12, 13 and 58 under 35 U.S.C. § 103 over Seibold, claim 14 under 35 U.S.C. § 103 over Seibold in view of Honka, and claims 58 and 59 under 35 U.S.C. § 112, second paragraph, are

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affirmed. Under the provisions of 37 CFR § 1.196(c) an amendment to claim 58 has been set forth which would render that claim allowable.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART, 37 CFR § 1.196(c)

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TERRY J. OWENS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
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